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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,501	11/30/2001	Jeffrey Ying	157003-0004	2250

29000 7590 03/15/2004

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EXAMINER

KOSOWSKI, ALEXANDER J

ART UNIT	PAPER NUMBER
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2125

10

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,501

Applicant(s)

YING, JEFFREY

Examiner

Alexander J Kosowski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 17-38 and 46-92 is/are rejected.
- 7) ☒ Claim(s) 10-16 and 39-45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5,6,7,9</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- 1) Claims 1-92 are presented for examination.

Specification

- 2) The disclosure is objected to because of the following informalities:

Under Related Application Information, related application information and CIP status needs to be updated. Serial number 09/903,403 filed on July 10, 2001 is now US Pat 6,636,141.

Allowable Subject Matter

- 3) Claims 10-16 and 39-45 are objected to as being dependent upon a rejected base claim, but may be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

- 4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- 5) Claims 1-3, 5-8, 17-20, 26, 28-32, 34-37, 46-49, 55, 57-61, 63-66, 69, 71, 73-78, 80-83 and 86 are rejected under 35 U.S.C. 102(e) as being unpatentable by Davis et al (U.S. Pat 6,671,586).

1. Referring to claim 1, Davis teaches a power management system, comprising:
a plurality of power switch control circuits, each of said power switch control

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circuits configured to selectively disengage one or more electrical loads (col. 5 lines 40-43);

a plurality of wireless receivers, each connected to one of said power switch control circuits (col. 5 lines 37-49);

at least one wireless transmitter (col. 5 lines 10-23); and

a central station, said central station causing messages to be transmitted by said at least one wireless transmitter to said power switch control circuits, said power switch control circuits responding thereto by disengaging electrical loads according to locally configurable settings (col. 5 lines 19-22 and lines 37-50).

2. Referring to claim 2, Davis teaches that said power switch control circuits are located at remote, geographically disparate locations (col. 5 lines 10-17).

3. Referring to claim 3, Davis teaches that one or more of said power switch control circuits comprises a set of controllable switches interposed between a power supply line and said plurality of electrical loads (col. 12 line 66 through col. 13 line 2).

5. Referring to claim 5, Davis teaches that each of said power switch control circuits comprises a processor for receiving said messages via its respective wireless receiver, and a memory for storing program instructions for said processor according to which the processor controls said controllable switches (col. 21 lines 36-44 and Figure 5).

6. Referring to claim 6, Davis teaches that said controllable switches are disengaged according to a locally configurable priority (col. 5 lines 40-43 and 23 lines 9-21).

7. and 8. Referring to claims 7-8, Davis teaches that said locally configurable priority is determined at least in part by manual switch settings or that it is determined by programmable parameters stored at each of the power switch control circuits via a local user interface (col. 23 lines 9-21).

36. and 37. Referring to claims 36 and 37, see rejection of claims 7-8 above.

65. and 66. Referring to claims 65 and 66, see rejection of claims 7-8 above.

82. and 83. Referring to claims 82 and 83, see rejection of claims 7-8 above.

17. Referring to claim 17, Davis teaches the step of transmitting from said central station, via said at least one wireless transmitter, an early warning message prior to said messages causing said power switch control circuits to selectively disengage their electrical loads (col. 40 lines 15-31).

18. Referring to claim 18, Davis teaches the step of displaying at one or more of said power switch control circuits an indication that said early warning message has been received (col. 39 lines 50-56).

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19. Referring to claim 19, Davis teaches a display indicating whether any of a power switch control circuits respective loads have been disengaged (col. 39 lines 50-56).

20. Referring to claim 20, Davis teaches that at least one of the messages transmitted by said central station causes said power switch control circuits to enter a designated alert stage level from among a plurality of alert stage levels (col. 5 lines 37-43, whereby shutting appliances off and keeping appliances on can be considered two different alert levels which the system may enter).

26. Referring to claim 26, Davis teaches that one or more of said power switch control circuits comprises a local wireless transmitter, and wherein said central station comprises a wireless receiver for receiving

transmissions from said one or more of said power switch control circuits, to effectuate bi-directional wireless communication between said central station and said one or more of said power switch control circuits (col. 5 lines 10-23 and col. 33 lines 5-8).

28. Referring to claim 28, Davis teaches that said messages can be targeted to specific groups of said power switch control circuits (col. 22 lines 50-65)

29. Referring to claim 29, Davis teaches that said messages

are targeted to specific groups of said power switch control circuits by use of distinct group addresses, frequencies, codes, encoding schemes, or any combination thereof (col. 22 lines 50-65).

30. Referring to claim 30, Davis teaches a method for power management, comprising the steps of:

transmitting, from a central station via a wireless transmitter, messages directed to a plurality of power switch control circuits, each of said power switch control circuits interposed between a power supply line and a plurality of local electrical loads (col. 5 lines 10-22 and lines 37-49);

receiving said messages at said power switch control circuits (col. 5 lines 40-43);

and at one or more of said power switch control circuits, in response to said

messages, disengaging the local electrical loads according to locally configurable settings (col. 5 lines 40-43 and col. 23 lines 9-21).

31. Referring to claim 31, see rejection of claim 2 above.

32. Referring to claim 32, see rejection of claim 3 above.

34. Referring to claim 34, see rejection of claim 5 above.

35. Referring to claim 35, see rejection of claim 6 above.

46. Referring to claim 46, see rejection of claim 17 above.

47. Referring to claim 47, see rejection of claim 18 above.

48. Referring to claim 48, see rejection of claim 19 above.

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49. Referring to claim 49, see rejection of claim 20 above.

55. Referring to claim 55, see rejection of claim 26 above.

57. Referring to claim 57, see rejection of claim 28 above.

58. Referring to claim 58, see rejection of claim 29 above.

59. Referring to claim 59, Davis teaches a system for reducing power consumption in a power distribution system, comprising:

a plurality of wireless energy control units, each of said wireless energy control units comprising a wireless receiver and controlling power flow from incoming power wires to one or more local electrical loads (col. 5 lines 37-49);

at least one wireless transmitter (col. 5 lines 10-23); and

a central station, said central station transmitting messages via said at least one wireless transmitter to said wireless energy control units, said messages instructing said wireless energy control units to switch among a non-alert stage level and one or more alert stage levels, said wireless energy control units responding thereto by selectively modifying the power flow to their respective local electrical loads according to the alert stage level instructed by the central station (col. 5 lines 19-22 and lines 37-50, whereby shutting appliances off and keeping appliances on can be considered two different alert levels which the system may enter).

60. Referring to claim 60, see rejection of claim 2 above.

61. Referring to claim 61, see rejection of claim 3 above.

63. Referring to claim 63, see rejection of claim 5 above.

64. Referring to claim 64, see rejection of claim 6 above.

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69. Referring to claim 69, see rejection of claim 17 above.

71. Referring to claim 71, Davis teaches that decisions to switch between said non-alert stage level and said one or more alert stage levels are made by comparing total customer power demand to one or more power usage threshold levels (col. 26 line 66 through col. 27 line 16).

73. Referring to claim 73, see rejection of claim 26 above.

74. Referring to claim 74, see rejection of claim 28 above.

75. Referring to claim 75, see rejection of claim 29 above.

76. Referring to claim 76, Davis teaches a method for reducing power demand within a power distribution system, said method comprising the steps of:

transmitting, from a central station via a wireless transmitter, messages directed to a plurality of wireless energy control units, each of said wireless energy control units controlling power flow from incoming power supply wires to one or more local electrical loads (col. 5 lines 37-49);

receiving said messages at said wireless energy control units, said messages instructing said wireless energy control units to switch among different alert stage levels (col. 5 lines 19-22 and lines 37-50, whereby shutting appliances off and keeping appliances on can be considered two different alert levels which the system may enter);

and at one or more of said power switch control circuits, in response to said messages, selectively modifying the power flow to the respective local electrical

loads based upon the alert stage level instructed by the central station (col. 5 lines 19-22 and lines 37-50, whereby there are at least two alert levels as described above).

- 77. Referring to claim 77, see rejection of claim 2 above.
- 78. Referring to claim 78, see rejection of claim 3 above.
- 80. Referring to claim 80, see rejection of claim 5 above.
- 81. Referring to claim 35, see rejection of claim 6 above.
- 86. Referring to claim 86, see rejection of claim 17 above.
- 88. Referring to claim 88, see rejection of claim 71 above.
- 90. Referring to claim 90, see rejection of claim 26 above.
- 91. Referring to claim 91, see rejection of claim 28 above.
- 92. Referring to claim 92, see rejection of claim 29 above.

Claim Rejections - 35 USC § 103

- 6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 7) Claims 21-25, 27, 50-54, 56, 70, 72, 87 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis.

21. Referring to claim 21, Davis teaches the system above. However, Davis does not explicitly teach said alert stage levels are ordered from a lowest alert stage level to a highest alert

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stage level, and wherein said power switch control circuits can be configured, via said locally configurable settings, to disengage more electrical loads at higher alert stage levels than at lower alert stage levels.

However, Davis teaches that power switch control circuits can be locally configured (col. 23 lines 9-21). Davis also teaches that more than one appliance may be connected to each power switch control circuit and shut off individually (col. 36 lines 49-52). In addition, Davis teaches that demand is monitored and based upon different levels of demand, different blocks of loads may be turned on and off to compensate (col. 25 line 56 through col. 26 line 4).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to disengage different electrical loads at different alert stage levels in the system taught by Davis since this would enable maximum control of load shedding and enable some users to retain certain circuits as functional in their home even if others are turned off to reduce electrical demand.

50. Referring to claim 50, see rejection of claim 21 above.

22. Referring to claim 22, Davis teaches the system above. However, Davis does not explicitly teach that the central station transmits a delay period command in connection with at least one of said messages, and wherein said power switch control circuits wait for a delay period indicated by said delay period command prior to disengaging said electrical loads.

Davis teaches that a warning signal is sent to the power switch control circuits a pre-determined time before electrical power is disengaged (col. 40 lines 22-27).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to transmit a delay period command in the system taught by Davis since this would allow a customer time to observe a warning light and prepare appliances for the impending power shut-off, which would allow a customer to prevent sensitive electronic appliances from being damaged by an immediate loss of power.

51. Referring to claim 51, see rejection of claim 22 above.

70. Referring to claim 70, see rejection of claim 21 above.

72. Referring to claim 72, see rejection of claim 22 above.

87. Referring to claim 87, see rejection of claim 21 above.

89. Referring to claim 89, see rejection of claim 22 above.

23. - 25. Referring to claims 23-25, Davis teaches that the power switch control circuits are interposed between power lines from a power utility and said electrical loads (col. 21 lines 45-52). However, Davis does not explicitly teach that operational power is drawn from the power lines via a decoupling elements, nor that the decoupling element comprises a capacitor or a transformer.

Examiner takes official notice that decoupling elements such as capacitors or transformers are well known in the art and it would have been obvious to one skilled in the art at the time in invention was made to utilize a capacitor or transformer as a decoupling element when attaching a power control circuit to operational power in the system taught by Davis since a decoupling element provides a loss-less path for direct current and an infinite impedance for alternating

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current and allows devices to be powered with no loss and prevents any noise from moving from one load to the next.

52. – 54. Referring to claims 52-54, see rejection of claims 23-25 above.

27. Referring to claim 27, Davis teaches the system above. However Davis does not explicitly teach that the power switch control circuits comprise a memory for storing historical data regarding the power switch control circuit's response to said messages from said central station.

Davis discloses that each power switch control circuit comprises memory and a processor (col. 21 lines 36-44).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize the memory in the power switch control circuits to store historical data regarding the circuit's response to messages from the central station in the system taught by Davis since this would allow a record to be maintained which could later be reported wirelessly back to the central station, which would aid in tracking demand changes over time.

56. Referring to claim 56, see rejection of claim 27 above.

8) Claims 4, 33, 62 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, further in view of Gosling (U.S. Pat 5,455,464).

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4. Referring to claim 4, Davis teaches the system above. However Davis does not explicitly teach that said set of controllable switches of one or more of said power switch control circuits is connected in series with a plurality of circuit breakers, one circuit breaker provided for each of said electrical loads.

Gosling teaches a power management system whereby a circuit breaker is provided for each electrical load (col. 2 line 67 through col. 3 line 3).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a circuit breaker for each electrical load in the system taught by Davis since it is noted that a circuit breaker is a well know apparatus which could be used to reduce the likelihood of a surge of power destroying or harming any device acting as a load attached to an electrical power source.

33. Referring to claim 33, see rejection of claim 4 above.

62. Referring to claim 62, see rejection of claim 4 above.

79. Referring to claim 79, see rejection of claim 4 above.

9) Claims 9, 38, 67, 84, 68 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, further in view of Whipple, Jr. et al (U.S. Pat 4,788,415).

9. Referring to claim 9, Davis teaches the system above. However, Davis does not explicitly teach that one or more of said controllable switches comprises a bimetal member, said bimetal member being deformed by a control signal which causes heating of the bimetal member and thereby results in changing the on/off state of the controllable switch.

Whipple, Jr. teaches that a controllable switch comprises a bimetal member (column 4 lines 1 to 6; see Figures 1-2), said bimetal member being deformed by a control signal which causes heating of the bimetal member and thereby results in changing the on/off state of the controllable switch (column 4 lines 7 to 32; see Figure 3) in order to control the operation of a surface unit power circuit.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a bimetal member in the controllable switches taught by Davis since bimetal switches have the advantage that they require less packaging space, have a longer cycle life, and are substantially quieter than comparable switching devices (Whipple, col. 6 lines 21-29).

38. Referring to claim 38, see rejection of claim 9 above.

67. Referring to claim 67, see rejection of claim 9 above.

84. Referring to claim 84, see rejection of claim 9 above.

68. Referring to claim 68, Davis teaches the system above. However, Davis does not explicitly teach that heating of the bimetal member is caused by heating a resistive coil.

Whipple, Jr. teaches a controllable switch comprising a bimetal member which is heated using a resistive coil (col. 2 lines 63-68).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a resistive coil to heat the bimetal member in the invention taught by Davis since heating of a bimetal member is critical to the functionality of the switching device and since bimetal switches have the advantage that they require less packaging space,

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have a longer cycle life, and are substantially quieter than comparable switching devices (Whipple, col. 6 lines 21-29).

85. Referring to claim 85, see rejection of claim 68 above.

Conclusion

10) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tarlton et al (U.S. Pat 6,462,665) – teaches a method for sending a weather alert.

Bartone et al (U.S. Pat 6,633,823) – teaches a system for monitoring energy usage.

Nierlich et al (U.S. Pat 6,519,509) – teaches a system for controlling energy distribution.

Davidow et al (U.S. Pat 6,624,532) – teaches a system for utility network load control.

Davis et al (U.S. Pat 5,576,700) – teaches a method for controlling an electrical load.

11) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander J Kosowski whose telephone number is 703-305-3958. The examiner can normally be reached on Monday through Friday, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 703-308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. In addition, the examiner's RightFAX number is 703-746-8370.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

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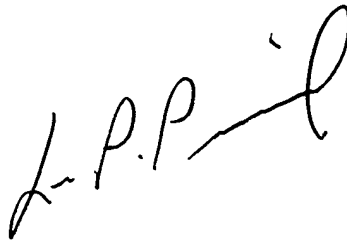
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Alexander J. Kosowski

Patent Examiner

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A handwritten signature in black ink, appearing to read "L. P. Picard". The signature is fluid and cursive, with a large loop at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100